IN THE TITLE:

Please change the title of the invention to "**AN X-RAY EXAMINATION APPARATUS CONTAINING A SHARED SOFTWARE MODULES AND AN APPLICATION TO ACCESS SOFTWARE MODULE SERVICES.**"

IN THE SPECIFICATION:

(1) At page 1, line 2, please insert the following section headings:

--CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims priority from European Patent Office application EP 00200855.5 filed March 9, 2000.

BACKGROUND OF THE INVENTION

1. Field of the Invention--.

(2) At Page 1, please replace the following paragraph beginning at line 5 with the following paragraph:

Such a family of complex systems is known from the article *'Creating architectures with building blocks'* by F.J. van deer Linden and J.K. Miller in IEEE Software **12**(1995)51-60, which is hereby incorporated by reference as background material. As described in the article, rather than creating a single product, a product family are based on a general understanding of product variations rather than precise product definitions, which are not available from the beginning. The objective is to enable people who are not experts in the problem domain to configure concrete products according to a parts list. In order to create a parts list, both hardware and software components must be pre-manufactured and place in an archive, ready for use. The system is constructed along three design dimensions covered by the system architecture: structure, aspects and behavior. The structure determines the system's decomposition into parts. Aspects model the functional decomposition of the system. Behavior deals with processing that rakes place within the system. In particular, the structure is

considered the most important and is organized into four layers, or subsystems. These subsystems are composed of software modules that are building blocks and comprise the basic software entities in the system architecture. Building blocks, although being software, resemble hardware components by being pre-manufactured components. Each building block resides in a particular layer and imports building blocks from lower layers. Thus, one can build different systems using the same collection of lower layer building blocks. For configurability purposes, when a card type is added or removed, the corresponding control software must be adapted to the new situation, such as by adding or removing building blocks.

A shared family architecture is based upon a skeleton of generic building blocks of software, that are present in most or all of the systems in a particular family. As disclosed in *"Composing Product Families from Reusable Components"* by F.J. van deer Linden and J.K. Miller in IEEE Software 0-7803-2531-1/95, pages 35-40 (IEEE 1995), which is herein incorporated by reference as background material, each family may have a large variety of systems, with each particular variety being adapted to certain user needs in capacity and functionality. During architectural design the collection of building blocks that forms a system family and the relationship between the building blocks are determined. The basic architecture of the family includes generic building blocks that define abstract behavior, and their mutual relationships. With regard to software components, just as hardware boards can be plugged into a system board without much detailed know-how, the software is pluggable too. The software should consist of plug-in units that extend the system by some meaningful functionality, also referred to as a service, and the hardware configurability imposes a minimum condition for the

configurability of the software components. A component framework is a skeleton of software architecture that can receive plug in software components providing one or more functions, also referred to as services. The component framework/skeleton defines roles, aka protocols including interfaces through which the services of the plug-in software components can be accessed.

(3) At page 1, line 9, please insert the following section heading:

--2. Description of the Related Art-- .

(4) At page 1, line 15, please insert the following section heading:

--SUMMARY OF THE INVENTION--.

(5) At page 2, please replace the paragraph at line 5 with the following paragraph:

Usually, the clients are formed by functionalities of the complex system, which indirectly serve commands supplied by the user of the complex system. The clients may also be direct actual users. Clients use the services from the plug-ins by accessing the component framework. The component framework according to the invention is itself active in setting up roles, i.e. common interfaces for services of several plug-ins. This achieves that the client is not involved in **de the** structures of the component framework. Notably this is achieved because the functionalities offered by plug-ins are modelled as services and common functional concepts of the plug-ins are combined at their own roles. According to the invention the component framework provides a central access without

revealing specific configurations to the client. Thus, diversity e.g. in future generations of the family is widely supported. In this respect it is to be noted that the family of complex systems may share the component framework. Various different members of the family are formed by coupling different plug-ins to the shared component framework. A next plug-in may be inserted without difficulty as its services may be interfaced to the client via the already existing roles. This makes it easier to create a new family member which has, with respect to the existing family, one or more new plug-ins with their services. According to the invention the services of the new plug-in are interfaced to the client via roles that are shared with service of earlier plug-ins. Alternatively, the component framework allows easy set-up of new roles for the service of the new plug-ins without substantial redesign of the component framework. Preferably when setting-up roles the expected diversity of new plug-ins is carefully analysed so that the setting-up of new roles remains limited.

(6) At page 4, between lines 17 and 18, please insert the following section heading:

--BRIEF DESCRIPTION OF THE DRAWINGS--.

(7) At page 4, line 24, please insert the following section heading:

--DETAILED DESCRIPTION OF THE INVENTION--.